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PATENT

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DOLLY

BACKGROUND OF THE INVENTION

[0001] This invention relates to a dolly structure for transporting goods.

[0002] Certain industries, such as the bakery industry, find it necessary to move large numbers of goods from one point to another, whether within the same factory or during delivery of the goods. Small goods are generally stored within stackable baskets. The baskets are then transported on a dolly. Previously, dollies have been heavy and awkward to maneuver, the components have been relatively expensive, and the assembly of the dollies has been time consuming.

SUMMARY OF THE INVENTION

[0003] It is the intent of the invention to address the aforementioned concerns.

[0004] In one aspect of the invention, the dolly has four corner members which are connected by tubular members to form a frame for receiving a rectangular basket. The corner member of the dolly includes an upper and lower element made of a durable plastic material connectable to form the corner member. A caster wheel is rotatably connectable to each lower element of the corner member.

[0005] In another aspect of the invention, the upper element of the corner member has an exposed surface receiving a portion of a rectangular member. The exposed surface also has raised walls for defining corner edges of the dolly.

[0006] In another aspect of the invention, the exposed surface of the upper element of the corner member is grooved to correspond with a corner bottom portion of the basket.

[0007] In yet another aspect of the invention, when the upper and lower elements are connected to form the corner member, the corner member forms an essentially hollow cavity therein, having side access apertures each for receiving an end of a tubular member into the cavity. The side access apertures open to a through channel in the cavity.

[0008] In yet another aspect of the invention, the channel has stop means therein for limiting the travel of the end of the tubular member so that exposed lengths of the tubular members are essentially equal on opposing sides.

[0009] Other applications of the present invention will become apparent to those skilled in the art when the following description of the best mode contemplated for practicing the invention is read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The description herein makes reference to the accompanying drawings wherein like reference numerals refer to like parts throughout the several views, and wherein:

[0011] Figure 1 is a perspective view of a dolly according to the present invention showing a basket in phantom resting thereon;

[0012] Figure 2 is a perspective view of a corner member of the dolly showing portions of tubular members connected thereto;

[0013] Figure 3 is another perspective view of the corner member without the tubular members;

[0014] Figure 4 is a perspective view of a lower half element of the corner member;

[0015] Figure 5 is a perspective view of an upper half element of the corner member; and

[0016] Figure 6 is a perspective view of an alternative embodiment of the dolly with a pair of baskets shown in phantom placed thereon.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] Referring to Figures 1 and 6, a dolly 10 is illustrated for transporting one or more baskets 12. Looking especially at Figure 1, the dolly 10 includes four corner members 14 interconnected by four tubular members 16. Each corner member 14 has a caster wheel 18 attached to a bottom surface 20 of the corner member 14. To minimize the cost and facilitate the assembly of the dolly, the corner members 14 are made of a durable plastic material. The plastic material also provides a lighter weight dolly. Standard galvanized fencing or other metallic conduit is used for the

tubular members 16. The tubular members 16 may be cylindrical, as shown in the Figures. However, the tubular members 16 may also have rectangular or other shapes, such as in an I-beam. The caster wheel 18 on each corner member 14 is a standard and known type.

[0018] Referring now to Figures 2 - 5, the corner member 14 is formed by connecting a lower half element 22 to an upper half element 24. The lower and upper half elements 22 and 24, respectively, are securely connected to each other by means of bolts 26. The bolts 26 are threadably insertible into apertures formed by integral dowels 28a, b, and 29a, b that extend into the interior surface 42a, 42b of the lower and upper half elements 22 and 24, respectively.

[0019] The conventional caster 18 includes a wheel 30 rotatably connected to a yoke 32. The yoke 32 has a center stud (not shown) that fits within an aperture formed by the dowels 34a, 34b in the lower and upper half elements 22, 24, respectively. The aperture in dowel 34a extends through the bottom surface 20 of the lower half element 22, but does not extend through the upper surface of the upper half element 24.

[0020] As can be seen in Figures 4 and 5, the corner member 14 is essentially hollow therein except for the dowels and a channel 36a, 36b formed in each lower and upper half element 22 and 24, respectively. The channels 36a and 36b are formed in each of the lower and upper half elements 22, 24, respectively, to house the ends of the tubular members 16 therein when the upper 24 and lower 22 half elements are connected as the corner member 14. Each channel 36a, 36b is configured and positioned to overlay each other when the lower and upper half elements, 22, 24 are connected. The channels 36a, 36b form a continuous path for receiving a portion of the tubular members. The channels 36a, 36b are preferably ribbed 37 to provide added strength and durability at that portion of the corner member 14 for holding the weight of the metallic tubular member 16 therein. The channels 36a, 36b preferably have a configuration corresponding to the shape of the tubular members 16.

[0021] As can be seen in Figure 5, the channel 36b in the upper half element 24 has inwardly extending dowels 38, 40 extending from the interior surface 42b and positioned at predetermined locations from the open ends 44, 46 of the channel 36b. The dowels 38, 40 in channel 36b form a stop for the ends of the tubular members 16 and thereby limit the travel of the end of the tubular member 16 when inserted into the corner member 14. The dowels 38, 40 may have other formations that stop the axial movement of the tubular members 16 into the corner member 14.

[0022] The upper half element 24 has an exposed upper surface 48 configured to accommodate the corner edges 50 of the basket 12. The two exterior surfaces 52a, b of the upper half elements 24 that intersect to form the corner edges 54 of the corner member 14 have a raised lip 56 along the periphery of the two edges. The raised lip 56 confines the basket 12 within the boundaries of the corner members 14. The upper surface 48 of the upper half element 24 preferably has a groove or notch 58 configuration for accommodating the legs of the basket 12 to prevent the basket 12 from sliding along the upper surface 48 of the upper half element 24. As better seen in Figure 3, the configuration may also include a ramp 60 for easily sliding baskets 12 into place on the dolly 10. In addition, the upper exposed surface 48 of the upper half element 24 may include recessed areas 62 surrounding the aperture for the bolts 26. The recessed area 62 inhibits the bolt 26 from interfering with the bottom surface of a basket 12 and essentially provides that the bolts 26, when installed into the corner member 14, lay flush with the upper exposed surface 48.

[0023] Figure 6 shows another embodiment in which two center members 64 are disposed between two other corner members 14 such that the two center members 64 are parallel to each other. The two center members 64 include the same characteristics as the corner members 14 except that they optionally may not include means for connecting a caster wheel 18 thereto. Each center member 64 is an assembly of an upper 70 and lower 72 element connected together, preferably by bolts. Although not shown in the drawings, the center members 64 will form a cavity therein to maintain the light weight attribute of the dolly 10. Each opposing side of the center member 64 will have an aperture 66 for receiving an end of the tubular

member 16 and a through channel (not shown) therein. The upper surface 68 of the center member 64 will preferably have a particular configuration for receiving the contours of the end of a basket. The intent of the center members 64 is to provide accommodations for two baskets to lay flat, side by side, on the dolly 12. Therefore, the upper surface 68 of each center member 64 will preferably have a wall or a lip 74 traversing the width of the center member 64 to prevent contact between the adjacent two baskets 12 during transport. The center wall 74 further prevents the shifting of the baskets 12 and the misalignment of the baskets 12 such that they do not fall off the dolly 10.

[0024] The dolly 10 is constructed by connecting the lower and upper half elements 22 and 24, respectively, to form the corner member 14. The bolts 26 are threadably inserted into the apertures formed by dowels 28a, b, and 29a, b. The dowels 28a, b and 29a, b provide added structure to the aperture as well as providing the threaded surface for the bolts 26. Conventional caster wheels 18 are inserted into the apertures formed by dowels 34a, 34b so that the dolly 10 can move along a level surface.

[0025] Once the corner members 14 are assembled, tubular members 16 are installed into the apertures formed by the channels 36a, 36b. The stop means 38 and 40 limit the travel of the tubular members 16 into the channel aperture. Therefore, the opposing sides of the dolly 10 should have tubular members 16 of the same length to form a dolly with a rectangular configuration.

[0026] The advantage of the present invention is to provide a lightweight, easily assembled, inexpensive dolly for transporting rectangular members, such as baskets, from one location to another. Because the tubular members are simply inserted within the cavity of the corner members, the length and size of the dolly can be easily changed by merely replacing tubular members of one size with tubular members of a different size.

[0027] While the invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that the invention is not to be limited to the disclosed embodiments but,

on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims, which scope is to be accorded the broadest interpretation so as to encompass all such modifications and equivalent structures as is permitted under the law.